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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/862,683

Applicant(s)

SIMONETTI, JOHN A.

Examiner

Virginia M Kibler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-114 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-114 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment received on 9/21/04 has been entered. Claims 1-114 remain pending.

Information Disclosure Statement

2. The information disclosure statement filed 6/30/03 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Foreign patent documents, DE 196 32 988 and FR 2 671 184, were not provided with an English translation, and were thereby not considered. However, a translation of both documents as provided by the USPTO are now cited by the Examiner.

Response to Arguments

3. Applicant's arguments filed 9/21/04 have been fully considered but they are not persuasive.

Summary of Applicant's Argument: Lindsay does not disclose a differential pressure across a material web to remove liquids from a pore and a defect. There is no disclosure of the removal of a liquid from a defect in Lindsay. The leaks associated with Lindsay are not related to defect in the material web but instead are related to the seals which provide a border between

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the ingress and egress locations of the prior art material web as it passes through a treatment chamber which applies a differential pressure to different surfaces of the material web in order to dry the material web. Lindsay does not disclose capturing an image of the surface of the material web but rather discloses using visualization and detection means to identify flows associated with leakage surrounding the treatment chamber/material web interface.

Examiner's Response: As recited in independent claim 1, the differential pressure is applied across a web so as to "remove said liquid from one of said pore and said defect." The claim language does not require liquid to remove from both the pore and the defect, but one of either the pore or defect. So Lindsay's disclosure of liquid being removed from the web meets the claim language. Furthermore, the limitation of "detecting a defect in a material web" is only recited in the preamble and, thereby has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Lindsay discloses filling a defect with liquid, applying a differential pressure across the web so as to remove the liquid from the pore and defect (Col. 1, lines 5-13; Col. 3, lines 10-37; Figure 1), capturing an image of the web after the differential pressure has been applied (Col. 7, lines 5-7 and 27-53; Col. 16, lines 13-19), and identifying the defect based on the image (Col. 3, lines 10-37; Col. 16, lines 13-22).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 105, 107, 111, and 112 are rejected under 35 U.S.C. 102(b) as being anticipated by Le Bouill et al. (FR 2 671 184).

Regarding claims 105 and 111, Le Bouill et al. ("Le Bouill") discloses the limitations of claims 1 and 54, including filling a pore and defect with a liquid (Page 3, step a; Page 3, para. 4), applying a differential pressure across the material web so as to remove the liquid from one of the pore and defect, said differential pressure being between said defect bubble point pressure and said pore bubble point pressure (Page 3, para. 6-10; Page 6, para. 1-5), capturing an image of the material web after the differential pressure has been applied (Page 3, steps b-c; Page 3, last para.), and identifying the defect based on the image (Page 7, para. 4-6; page 8, para. 4-10). Le Bouill further discloses the method is carried out continuously on a flat material web (Page 4, last para.).

Regarding claims 107 and 112, Le Bouill discloses the limitation of claims 17 and 69, including a differential pressure source in contact with said first surface of said material web configured to apply a differential pressure across said material web (Page 6, para. 1-5); a liquid contained within said pore and said defect (Page 3, step a; Page 3, para. 4); a camera 5 configured to capture an image of a portion of said material web after said differential pressure has been applied across said material web (Page 3, steps b-c; Page 3, last para.); a processor

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configured to determine the location of said defect based on said image (Page 4, step 4; page 7, para. 4-6; Page 8, para. 4-10; Figure 6); wherein said differential pressure is between said defect bubble point pressure and said pore bubble point pressure such that, when said differential pressure is applied across said material web, said liquid is removed from one of said pore and said defect (Page 3, para. 6-10; page 6, para. 1-5). Le Bouill further discloses the material web is a flat, continuous material web (Page 4, last para.)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 106 and 108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Bouill et al. (FR 2 671 184).

Regarding claim 106, Le Bouill discloses the limitations of claim 16, including filling a said pore and said defect with a liquid (Page 3, step a; Page 3, para. 4); placing a portion of said continuous web in contact with a differential pressure source (Page 6, para. 1-5); applying a differential pressure across said portion of said continuous material web, said differential pressure being higher than the bubble point pressure for said defect and lower than the bubble point pressure for said pore (Page 3, para. 6-10; page 6, para. 1-5); capturing an image of said portion of said continuous material web after said differential pressure has been applied (Page 3, steps b-c; Page 3, last para.); and identifying said defect based on said image (Page 7, para. 4-6;

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page 8, para. 4-10). Le Bouill further discloses the method is carried out continuously on a flat web material (Page 4, last para.). Le Bouill does not appear to specify applying a vacuum pressure. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a vacuum pressure. Applicant has not disclosed that a vacuum pressure provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either the differential pressure disclosed by Le Bouill or a vacuum roller because both perform the same function of applying a differential pressure to displace the liquid. Therefore, it would have been obvious to one of ordinary skill in the art to modify Le Bouill to obtain the invention as specified in claim 106.

Regarding claim 108, Le Bouill discloses the limitation of claim 41, including a differential pressure source in contact with said first surface of said material web, configured to apply a differential pressure across said material web (Page 3, step a; Page 3, para. 4); a liquid bath containing a liquid, wherein a portion of said material web is submerged in said liquid bath such that said liquid enters said pore and said defect (Page 3, step a; Page 3, para. 4; Page 2, para. 3); and a camera 5 to capture a thermal image of a portion of said material web after said differential pressure has been applied across said material web (Page 3, steps b-c; Page 3, last para.); a processor to determine the location of said defect based on said image, wherein said differential pressure is between said defect bubble point pressure and said pore bubble point pressure such that, when said differential pressure is applied across said material web, said liquid is removed from one of said pore and said defect (Page 4, step f; Page 7, para. 4-6; Page 8, para. 4-10; Figure 6); and the temperature of a portion of said material web proximate said defect

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changes when said liquid is removed from said defect (Page 7, para. 4-6). Le Bouill further discloses the material web is a flat, continuous material web (Page 4, last para.). Le Bouill does not disclose a vacuum roller. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a vacuum roller. Applicant has not disclosed that a vacuum roller provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either the differential pressure source disclosed by Le Bouill or a vacuum roller because both perform the same function of applying a differential pressure to displace the liquid. Therefore, it would have been obvious to one of ordinary skill in the art to modify Le Bouill to obtain the invention as specified in claim 108.

8. Claims 109, 110, 113, and 114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Bouill et al. (FR 2 671 184) in view of Burkhardt (DE 196 32 988).

Regarding claims 109 and 113, the arguments analogous to those presented above for claim 105 are applicable to claims 109 and 113. Le Bouill further discloses calculating a current location of said defect (Page 8, para. 4-10; Page 9, para. 4-5; Figure 6). Le Bouill does not appear to recognize sending the location to a post-processing device for repair. However, Burkhardt discloses that it is known to transmit data relating to a location of a defect to a post processing device and cause the post-processing device to effect a repair at said current location of the defect (Pages 5-6). Le Bouill and Burkhardt are combinable because they are from the same field of endeavor of web inspection. At the time of the invention, it would have been obvious to one of ordinary skill in the art to have modified the method disclosed by Le Bouill to include repairing a defect as taught by Burkhardt. The motivation for doing so would have been

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because it is well known in the art and would enhance the versatility of the system to include repairing defects. Therefore, it would have been obvious to combine Le Bouill with Burkhart to obtain the invention as specified in claims 109 and 113.

Regarding claims 110 and 114, the arguments analogous to those presented above for claims 108 and 109 are applicable to claims 110 and 114.

9. Claims 1-5, 9, 11, 13, 15-19, 22-42, 48, 54-57, 61, 63, 65, 67-71, 74-93, and 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsay et al. (6,280,573) in view of Hopkins et al. (5,576,480).

Regarding claims 1 and 54, Lindsay et al. ("Lindsay") discloses filling a pore and defect with a liquid, applying a differential pressure across the material web so as to remove the liquid from the pore and defect (Col. 1, lines 5-13; Col. 3, lines 10-37; Figure 1), capturing an image of the material web after the differential pressure has been applied (Col. 7, lines 5-7 and 27-53; Col. 16, lines 13-19), and identifying the defect based on the image (Col. 3, lines 10-37; Col. 16, lines 13-22). Lindsay does not appear to expressly state that the differential pressure is between the defect bubble point pressure and the pore bubble point pressure. However, Hopkins et al. ("Hopkins") teaches that it is known to fill a pore and defect with a liquid, apply a differential pressure across the material so as to remove the liquid from the pore or defect wherein the differential pressure is between the defect bubble point pressure and the pore bubble point pressure (Col. 1, lines 20-60). Lindsay and Hopkins are combinable because they are from the same field of endeavor of porous material inspection. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the differential pressure disclosed by Lindsay to expressly recognize being between the defect bubble point pressure and

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pore bubble point pressure. The motivation for doing so would have been because this requirement for the bubble test is well known in the art (Col. 1, lines 36-45) and allows for the detection of defects.

Regarding claim 16, the arguments analogous to those presented above for claim 1 are applicable to claim 16. Lindsay discloses placing a portion of the continuous material web in contact with a differential pressure source (Figure 1) applying a vacuum pressure to a continuous web material (Col. 15, lines 11-35). Hopkins discloses the differential pressure being higher than the bubble point pressure for the defect and lower than the bubble point pressure for the pore (Col. 1, lines 20-60).

Regarding claims 17 and 69, the arguments analogous to those presented above for claim 1 are applicable to claims 17 and 69. Lindsay discloses a processor configured to determine the location of the defect based on the image (Col. 7, lines 27-53; Col. 16, lines 13-63).

Regarding claim 41, the arguments analogous to those presented above for claim 17 are applicable to claim 41. Lindsay discloses a camera to capture a thermal image of a portion of the material web after the differential pressure has been applied across the material web (Col. 7, lines 27-53) and the temperature of a portion of the material web proximate the defect changes when the liquid is removed from the defect (Col. 7, lines 27-53). Lindsay discloses applying a vacuum differential pressure across the web (Col. 1, lines 54-67; Col. 15, lines 11-35), but does not disclose a vacuum roller. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a vacuum roller. Applicant has not disclosed that a vacuum roller provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to

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perform equally well with either the vacuum disclosed by Lindsay or a vacuum roller because both perform the same function of applying a differential pressure to displace the liquid.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Lindsay and Hopkins to obtain the invention as specified in claim 41.

Regarding claims 42, 48, 93 and 99, the arguments analogous to those presented above for claim 17 are applicable to claims 42, 48, 93 and 99. Lindsay discloses calculating a current location of the defect, transmitting data relating to the current location to a post-processing device, and causing a post-processing device to effect a repair at the current location of the defect (Col. 3, lines 22-37; Col. 16, lines 13-63).

Regarding claims 2, 3, 55, and 56, Lindsay discloses applying a vacuum pressure to the first surface of the material web (Col. 1, lines 54-67; Col. 15, lines 11-35; Figure 1). The arguments analogous to those presented above for claim 41 are applicable to claims 3 and 56.

Regarding claims 4 and 57, Lindsay discloses applying a gaseous pressure to the first surface of the material web (Col. 1, lines 5-24; Col. 15, lines 11-35).

Regarding claim 5, the arguments analogous to those presented above for claim 16 are applicable to claim 5.

Regarding claims 9 and 61, Lindsay discloses capturing an image to detect a defect (Col. 7, lines 27-53), but does not appear to disclose comparing the image to a known image. However, it would have been obvious to one of ordinary skill in the art to have modified the defect detection disclosed by Lindsay to include comparing the image to a known image because it is a well known methodology routinely utilized in the art for the detection of defects.

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Regarding claims 11, 13, 63, and 65, the arguments analogous to those presented above for claim 41 are applicable to claims 11, 13, 63, and 65.

Regarding claims 15, 31, 32, 67, 83, and 84, Lindsay and Hopkins do not appear to recognize repeating the process of locating defects. However, it is well known and routinely utilized in the art of defect detection. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the method of detecting defects to include repeating the process because it increases the reliability of the inspection process.

Regarding claim 68, Lindsay discloses the web material as a non-woven mat (Col. 9, lines 1-2).

Regarding claims 18 and 70, Lindsay discloses a processor configured to receive data related to the image and to identify a portion of the image corresponding to the defect based on the data (Col. 3, lines 10-36; Col. 7, lines 27-53; Col. 16, lines 13-63).

Regarding claims 19 and 71, Lindsay discloses determining a current location of the defect on the material web based on data related to a location within the image of a portion of the image showing the defect and data related to the direction of travel of the material web (Col. 3, lines 10-21; Col. 7, lines 27-53; Col. 16, lines 13-63).

Regarding claims 22, 23, 74, and 75, Lindsay discloses capturing a thermal image of a portion of the web using an infrared camera (Col. 7, lines 27-53).

Regarding claims 24 and 76, the arguments analogous to those presented above for claim 13 are applicable to claims 24 and 76.

Regarding claims 25 and 77, the arguments analogous to those presented above for claim 23 are applicable to claims 25 and 77.

Regarding claims 26 and 78, Lindsay discloses capturing a photographic image but does not specify a color image. However, this is routinely implemented in the art of defect detection. Therefore, it would have been obvious to one of ordinary skill in the art to have modified the image disclosed by Lindsay to specify a color image because it is well known in the art and provides three times as much data than gray level images, thereby allows a much more robust segmentation toward lighting conditions and a better accuracy with regard to the extracted regions.

Regarding claims 27-30 and 79-82, Lindsay discloses applying a liquid to the web but does not appear to disclose the details. At the time of the invention, it would have been obvious to a person of ordinary skill in the art specify a means to apply the liquid to the web including a first and second roller. Applicant has not disclosed that the roller provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either applying the liquid as disclosed by Lindsay or submerging the web using rollers because both perform the same function of applying a liquid to the web. Therefore, it would have been obvious to one of ordinary skill in the art to modify Lindsay and Hopkins to obtain the invention as specified in claims 27-30 and 79-82.

Regarding claims 33-35 and 85-87, Lindsay discloses applying a vacuum differential pressure across the web (Col. 1, lines 54-67; Col. 15, lines 11-35), but does not disclose a vacuum roller. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a vacuum roller including the specified details. Applicant has not disclosed that a vacuum roller provides an advantage, is used for a particular purpose, or solves a

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stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either the vacuum disclosed by Lindsay or a vacuum roller because both perform the same function of applying a differential pressure to displace the liquid. Therefore, it would have been obvious to one of ordinary skill in the art to modify Lindsay and Hopkins to obtain the invention as specified in claims 33-35 and 85-87.

Regarding claims 36 and 88, the arguments analogous to those presented above for claim 4 are applicable to claims 36 and 88.

Regarding claims 37 and 89, Lindsay discloses the differential pressure source changes the temperature of the pressurized gas prior to applying it to the first surface of the material web (Col. 7, lines 27-53; Col. 16, lines 11-35).

Regarding claims 38 and 90, Lindsay discloses a bubble of gas encased in the liquid is produced on a surface of the material web at a location corresponding to the defect when the differential pressure is applied across the material web (Col. 8, lines 29-49).

Regarding claims 39 and 91, the arguments analogous to those presented above for claim 9 are applicable to claims 39 and 91.

Regarding claims 40 and 92, the arguments analogous to those presented above for claim 42 is applicable to claims 40 and 92.

10. Claims 6-8, 20, 21, 58-60, 72, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsay et al. (6,280,573) and Hopkins et al. (5,576,480) as applied to claims 1, 19, 54, and 71 above, and further in view of Karjanmaa (WO 00/45156).

Regarding claims 6-8 and 58-60, Lindsay and Hopkins do not appear to recognize placing a mark on the web. However, Karjanmaa discloses placing a mark over a detected defect on a

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web (Page 2, lines 22-30). While Karjanmaa does not expressly indicate placing the mark near an edge, it would have been obvious in light of his disclosure to specify the location mark near an edge depending on the location of the defect. Lindsay, Hopkins, and Karjanmaa are combinable because they from the same field of endeavor of defect detection. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the detection of the defects disclosed by Lindsay and Hopkins to include marking the defect. The motivation for doing so would have been because it is well known in the art and provides a clear indication of the location of the defects. Therefore, it would have been obvious to combine Lindsay and Hopkins with Karjanmaa to obtain the invention as specified in claims 6-8 and 58-60.

Regarding claims 20, 21, 72, and 73, the arguments analogous to those presented above for claim 6 are applicable to claims 20, 21, 72, and 73. Karjanmaa discloses placing a mark over a detected defect, thereby a post-processing device is configured so that it may be moved into contact with the material web.

11. Claims 44-47, 50-53, 95-98, and 101-104 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsay et al. (6,280,573) and Hopkins et al. (5,576,480) as applied to claims 42, 48, 93, and 99 above, and further in view of McHenry et al. (5,672,388).

Regarding claims 44-47, 50-53, 95-98, and 101-104, Lindsay discloses localized leak reduction means in response to the defect detection (Col. 3, lines 10-37), but does not specify repairing by moving into contact with web. However, McHenry discloses that it is known include repairs by contacting the material to selectively seal defects including adhesive, affixing a piece of material to cover the defect, and heating a portion (Abstract; Col. 3, lines 15-32; Col.

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6, lines 3-21). Lindsay, Hopkins, and McHenry are combinable because they are from the same field of endeavor of defect detection. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the detection of defects disclosed by Lindsay and Hopkins to including repairing by moving into contact. The motivation for doing so would have been because it will expand the versatility of the system to include selectively sealing defects by controllably altering the pore size. Therefore, it would have been obvious to combine Lindsay and Hopkins with McHenry to obtain the invention as specified in claims 44-47, 50-53, 95-98, and 101-104.

12. Claims 10, 12, 43, 49, 62, 64, 94, and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsay et al. (6,280,573) and Hopkins et al. (5,576,480) as applied to claims 1, 11, 42, 48, 54, 63, 93 and 99 above, and further in view of Fujita (6,535,621).

Regarding claims 10, 12, 62, and 64, Lindsay and Hopkins do not appear to expressly disclose characterizing the image as a plurality of pixels. However, Fujita discloses characterizing the image as a plurality of pixels and assigning each of the pixels a numerical value based on a portion of the image corresponding to the pixel (Abstract; Figure 15). Lindsay, Hopkins, and Fujita are combinable because they are from the same field of endeavor of defect detection. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the detection of defects using the image disclosed by Lindsay and Hopkins to include characterizing the image as a plurality of pixels and assigning each pixel a value. The motivation for doing so would have been because it is well known in the art and provides a reliable method of locating the defects. Therefore, it would have been obvious to

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combine Lindsay and Hopkins with Fujita to obtain the invention as specified in claims 10, 12, 62, and 64.

Regarding claims 43, 49, 94, and 100, the arguments analogous to those presented above for claim 42 are applicable to claims 43, 49, 94, and 100. Lindsay and Hopkins do not appear to recognize determining the size or shape of the defect. However, Fujita discloses determining the size of the defect (Abstract). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the defect detection disclosed by Lindsay and Hopkins to include determining the size. The motivation for doing so would have been because it is a well known methodology routinely utilized in defect detection and provides greater detail of the defect. Therefore, it would have been obvious to combine Lindsay and Hopkins with Fujita to obtain the invention as specified in claims 43, 49, 94, and 100.

13. Claims 14 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsay et al. (6,280,573) and Hopkins et al. (5,576,480) as applied to claims 1 and 54 above, and further in view of Burkhart (DE 19632988).

Regarding claims 14 and 66, Lindsay and Hopkins do not appear to recognize calculating a location based on the velocity. However, Burkhart discloses calculating a current location of the defect based on information related to the velocity of the material web (Abstract). Lindsay, Hopkins, and Burkhart are combinable because they are from the same field of endeavor of defect detection. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the detection of defects using the image disclosed by Lindsay and Hopkins to include using the velocity information to locate defects on the web. The motivation for doing so would have been because it is well known in the art and provides a

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means to establish the arrival time of the defect in order to repair it. Therefore, it would have been obvious to combine Lindsay and Hopkins with Burkhart to obtain the invention as specified in claims 14 and 66.

Conclusion

14. Applicant's amendment necessitated the new grounds of rejection presented in this Office action (claims 105-114). Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Virginia Kibler can be reached on (703) 306-4072. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Virginia Kibler
01/18/05

MEHRDAD DASTOURI
PRIMARY EXAMINER

